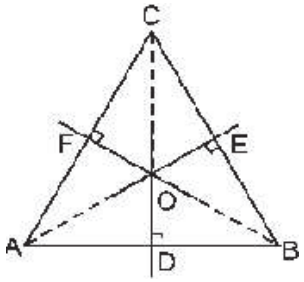
7 TRIANGLES

EXERCISE 7.5 (OPTIONAL)

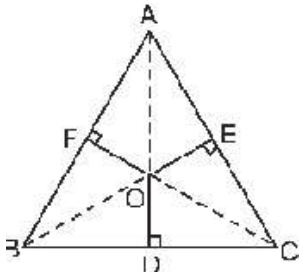
Q.1. *ABC is a triangle. Locate a point in the interior of* ΔABC *which is equidistant from all the vertices of* ΔABC.

Sol. Draw perpendicular bisectors of sides AB, BC and CA, which meets at O.
Hence, O is the required point.

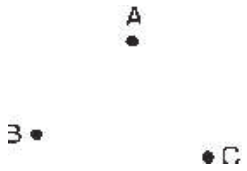


Q.2. *In a triangle locate a point in its interior which is equidistant from all the sides of the triangle.*

Sol.



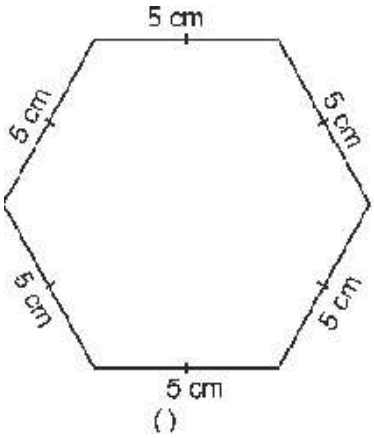
Q.3. *In a huge park, people are concentrated at three points (see Fig.).*
A : where there are different slides and swings for children,
B : near which a man-made lake is situated,
C : which is near to a large parking and exit.
Where should an icecream parlour be set up so that maximum number of persons can approach it?

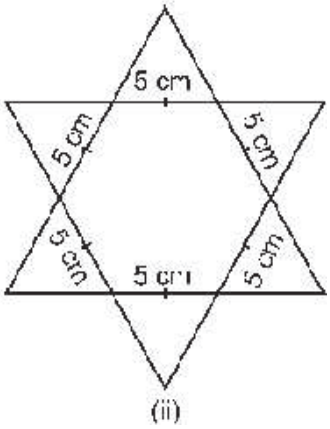


Draw bisectors $\angle A$, $\angle B$ *and* $\angle C$ *of* ΔABC. *Let these angle bisectors meet at O.*
O is the required point.

Sol. Join AB, BC and CA to get a triangle ABC. Draw the perpendicular bisector of AB and BC. Let they meet at O. Then O is equidistant from A, B and C. Hence, the icecream pra

Q.4. *Complete the hexagonal and star shaped Rangolies [see Fig. (i) and (ii)] by filling them with as many equilateral triangles of side 1 cm as you can. Count the number of triangles in each case. Which has more triangles?*





Sol.